COLORADO
Department of Public Health & Environment

Colorado Discharge Permit System (CDPS)
Fact Sheet for Modification 4
Permit Number CO0040142
TOWN OF FRASER, UPPER FRASER VALLEY TREATMENT PLANT, GRAND COUNTY

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November 10, 2016

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I. TYPE OF PERMIT

A. Type of Modification: Modification 4 - Major Amendment

B. Discharge To: Surface Water

II. FACILITY INFORMATION

A. SIC Code: 4952 Sewerage Systems

B. Facility Location: Latitude: 39.9623° N,
Longitude: 105.8158° W

III. SCOPE OF MODIFICATION REQUEST

On June 20, 2016 the division received a modification request from the Town of Fraser to modify their existing permit for the Upper Fraser Valley Treatment Plant. The town requests monthly limits for copper translated to total recoverable form and an extension in the compliance schedule to June 30, 2018.

IV. CHANGES MADE AS A REULTS OF THE MODIFICATION

To determine monthly limits, the division used updated low flows available to the Upper Fraser Valley Treatment Plant and used updated ambient data, as the ambient data in the 2011 WQA was considerably less than more recent data available for the Fraser River. The low flow and ambient data for this modification have been updated because the division has public noticed the draft permit (May 2016 and August 2016) for the Moffat Tunnel West portal (CO0047554), which was previously modeled with the Upper Fraser Valley Treatment Plant. At this time, the division believes enough dilution and distance is traveled between the two facilities and therefore they were not modeled together. However, this decision is assessed and made at the renewal of each permit.

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To determine the low flows available to the Upper Fraser Valley Treatment Plant for copper limits, USGS gage station 09027100 was used, which is located approximately two miles downstream of the Upper Fraser Valley WWTF. The period of record was from May 1, 2011 through November 23, 2015. The monthly average flows for the facility were subtracted from the daily flows from the stream gage. The annual 1E3 and 30E3 low flows were calculated using the EPA DFLOW software. The output from DFLOW provides calculated acute and chronic low flows for each month and is presented below in Table 1.

Table 1
Low flows for Fraser River at the Fraser Valley WWTF

Low Flow (cfs)	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*
1E3 Acute	17	18	19	23	20	17	18	17	10	10	13	14
30E3 Chronic	17	18	19	24	21	20	20	17	13	13	15	15

Ambient data was gathered from the facility from a monitoring station located at CR8 approximately one mile upstream of the facility. Data were available for a period of record of August 2014 through August 2015 with two data points per month. Table 2 summarizes the ambient copper data used for the copper WQBELs.

Table 2
Ambient Water Quality for Fraser River for Copper

Parameter	*Number of samples*	*50th Percentile*	*85th Percentile*	*Mean*	*Maximum*
Cu, Dis (µg/l)	24	0.76	1.1	0.81	1.4

The facility submitted a translator study with a result of 1.48. This value was multiplied by the table value standard for copper which is 3.6 µg/l for chronic and 4.9 µg/l for acute from the Moffat Tunnel WQA dated 5/3/2016. Based on this translator study at this time, the calculated WQBELs for chronic and acute are presented in Tables 3a and 3b. Q_1 and M_1 refer to the flow and ambient copper concentrations for the Fraser River upstream of the Fraser WWTF. Q_3 and M_3 refer to the downstream flow and water quality standard of the Fraser River. Q_2 refers to the design capacity of the Fraser WWTF and M_2 is the WQBEL for the Fraser WWTF. Please refer to the WQA for discussion on the calculations for WQBELs.

Table 3a
Chronic Monthly WQBELs for copper

Parameter	*Q_1 (cfs)*	*Q_2 (cfs)*	*Q_3 (cfs)*	*M_1 (µg/l)*	*M_3 (µg/l)*	*M_2 (µg/l)*
Cu (µg/l) Jan	17	3.87	20.87	1.1	5.3	***24***
Cu (µg/l) Feb	18	3.87	21.87	1.1	5.3	***25***
Cu (µg/l) Mar	19	3.87	22.87	1.1	5.3	***26***
Cu (µg/l) Apr	24	3.87	27.87	1.1	5.3	***31***
Cu (µg/l) May	21	3.87	24.87	1.1	5.3	***28***
Cu (µg/l) Jun	20	3.87	23.87	1.1	5.3	***27***
Cu (µg/l) Jul	20	3.87	23.87	1.1	5.3	***27***
Cu (µg/l) Aug	17	3.87	20.87	1.1	5.3	***24***
Cu (µg/l) Sep	13	3.87	16.87	1.1	5.3	***19***
Cu (µg/l) Oct	13	3.87	16.87	1.1	5.3	***19***

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Cu (µg/l) Nov	15	3.87	18.87	1.1	5.3	***22***
Cu (µg/l) Dec	15	3.87	18.87	1.1	5.3	***22***

Table 3b
Acute Monthly WQBELs for copper

Parameter	*Q_1 (cfs)*	*Q_2 (cfs)*	*Q_3 (cfs)*	*M_1 (µg/l)*	*M_3 (µg/l)*	*M_2 (µg/l)*
Cu (µg/l) Jan	17	3.87	20.87	1.1	7.3	***35***
Cu (µg/l) Feb	18	3.87	21.87	1.1	7.3	***36***
Cu (µg/l) Mar	19	3.87	22.87	1.1	7.3	***38***
Cu (µg/l) Apr	23	3.87	26.87	1.1	7.3	***44***
Cu (µg/l) May	20	3.87	23.87	1.1	7.3	***39***
Cu (µg/l) Jun	17	3.87	20.87	1.1	7.3	***35***
Cu (µg/l) Jul	18	3.87	21.87	1.1	7.3	***36***
Cu (µg/l) Aug	17	3.87	20.87	1.1	7.3	***35***
Cu (µg/l) Sep	10	3.87	13.87	1.1	7.3	***23***
Cu (µg/l) Oct	10	3.87	13.87	1.1	7.3	***23***
Cu (µg/l) Nov	13	3.87	16.87	1.1	7.3	***28***
Cu (µg/l) Dec	14	3.87	17.87	1.1	7.3	***30***

An antidegradation analysis was also conducted for the new copper WQBELs. However, since the non-impact limit is 80 µg/l, the WQBELs are the final limits for all months for copper.

Since the translator of 1.48 was used, the permit limits are in micrograms per liter of total copper. These limits will become effective upon the expiration of the compliance schedule. Part I.A.2 of the permit has been updated to reflect these changes.

The division will deny the request for an extension in the compliance schedule. Since the new limits are less stringent than the current limits and in accordance with the compliance schedule policy, the compliance schedule will not be extended at this time. The division suggests and encourages continued and expanded corrosion control measures to control copper in the effluent at this time.

V. PUBLIC NOTICE COMMENTS

The public notice period was from September 16, 2016 to October 17, 2016. No comments were received during the public notice period.

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